

Art Unit: 3748
Examiner: Hoang M. Nguyen
Serial No.: 10/562,165
Docket No.: 02207-25610.PCT.US

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (currently amended) Steam cycle with a steam generator, adapted to have thermal energy transferred to a water-based operating medium and a power engine adapted to convert the thermal energy comprised in the operating medium to mechanical energy, characterized in that the water based operating medium additionally contains at least one heterocyclic compound to form a water based mixture operable in a high-energy state temperature of approximately 550 °C.

2. (original) Steam cycle according to claim 1, characterized in that the operating medium is a mixture containing water and heterocyclic aromatic compounds, water being contained in an amount between 5 and 95 percent by weight and the heterocyclic compound in an amount between 5 and 95 percent by weight.

3. (original) Steam cycle according to claim 2, characterized in that the operating medium additionally contains one or more polymers which are mixable with water, surfactant and/or other organic lubricants.

4. (previously presented) Steam cycle according to claim 3, characterized in that the operating medium contains a heterocyclic compound selected from the group consisting of 2-methyl pyridine, 3-methyl pyridine, pyridine, pyrrole, pyridazine, and combinations thereof.

5. (previously presented) Steam cycle according to claim 3, characterized in that the polymer is selected from the group consisting of polyethylene glycol, polyphenyl, terphenyl, and combinations thereof.

6. (previously presented) Steam cycle according to claim 1, wherein the operating medium includes a heterocyclic aromatic compound, including 2-methyl pyridine.

7. (previously presented) Steam cycle according to claim 2, characterized in that the

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operating medium contains a heterocyclic compound selected from the group consisting of 2-methyl pyridine, 3-methyl pyridine, pyridine, pyrrole, pyridazine, and combinations thereof.

8. (previously presented) Steam cycle according to claim 1, characterized in that the operating medium contains a heterocyclic compound selected from the group consisting of 2-methyl pyridine, 3-methyl pyridine, pyridine, pyrrole, pyridazine, and combinations thereof.

9. (original) Steam cycle according to claim 1, characterized in that the operating medium additionally contains one or more polymers which are mixable with water, surfactant and/or other organic lubricants.

10. (previously presented) Steam cycle according to claim 1, wherein the heterocyclic compound is a heterocyclic aromatic compound.

11. (currently amended) A frost proof steam cycle with a steam generator, adapted to have thermal energy transferred to a water-based operating medium and a power engine adapted to convert the thermal energy comprised in the operating medium to mechanical energy, the water based operating medium comprising:

a) water;

b) at least one heterocyclic compound combinable with the water to form a water based mixture operable in a high-energy state of the steam cycle at a temperature of approximately 550 °C; and

b) a lubricant selected from the group consisting of a water-mixable polymer, a water-mixable surfactant, a water-mixable organic lubricant, a water-mixable inorganic lubricant, and combinations thereof.

12. (new) A steam cycle in accordance with claim 11, wherein the water based operating medium has a freezing point below 0 °C.

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13. (new) A steam cycle in accordance with claim 1, wherein the water based operating medium has a freezing point below 0 °C.